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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,389	11/14/2001	Makoto Itonaga	24828	7016

20529 7590 05/10/2004

NATH & ASSOCIATES  
1030 15th STREET  
6TH FLOOR  
WASHINGTON, DC 20005

EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 05/10/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/987,389

Applicant(s)

ITONAGA ET AL.

Examiner

Peter Vincent Agustin

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of species E, readable on claims 8-10, in Paper No. 5 is acknowledged.
2. Claims 1-7 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Priority*

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 9 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation "the operation distance". There is insufficient antecedent basis for this limitation in the claim. It is not clear to what element the "operation distance" refers.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 8 rejected under 35 U.S.C. 102(e) as being anticipated by Kiriki et al. (hereafter Kiriki) (US 6,349,083).

Kiriki discloses an objective lens (figure 1) for an optical disk, comprising a single lens having at least one surface formed in an aspheric shape (column 14, line 5) and having a numerical aperture of 0.78 or more (column 13, line 66:  $NA = 1.19$ ), and satisfying the following condition:  $d_1 / f > 1.2$  (column 13, line 66:  $f = 1.0$  and column 14, line 5:  $d_1 = 1.828$ );  $0.65 < R_1 / f < 0.95$  (column 14, line 5:  $R_1 = 0.92$ );  $|R_1/R_2| < 0.7$  (figure 1 shows  $R_2$  is infinity, i.e.,  $R_1/R_2$  approaches zero); and  $n > 1.65$  (column 14, line 5:  $n = 1.833$ ), in which  $f$  denotes a focal distance of the lens,  $d_1$  denotes a center thickness of the lens,  $R_1$  denotes a curvature radius in a vertex of the lens on a light source side,  $R_2$  denotes a curvature radius in a vertex of the lens on an optical disk side, and  $n$  denotes a refractive index of the lens.

10. Claim 8 rejected under 35 U.S.C. 102(e) as being anticipated by Ota et al. (hereafter Ota) (US 6,411,442).

Ota discloses an objective lens (figure 1a) for an optical disk, comprising a single lens having at least one surface formed in an aspheric shape and having a numerical aperture of 0.78 or more (column 2, lines 6-11), and satisfying the following condition:  $d_1 / f > 1.2$  (column 2, line 21);  $0.65 < R_1 / f < 0.95$  (column 2, line 47);  $| R_1/R_2 | < 0.7$  (figure 1a shows R2 close to infinity, i.e.,  $R_1/R_2$  approaches zero); and  $n > 1.65$  (column 2, lines 37 & 43), in which  $f$  denotes a focal distance of the lens,  $d_1$  denotes a center thickness of the lens,  $R_1$  denotes a curvature radius in a vertex of the lens on a light source side,  $R_2$  denotes a curvature radius in a vertex of the lens on an optical disk side, and  $n$  denotes a refractive index of the lens.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Kiriki or Ota, in view of Tanaka et al. (hereafter Tanaka) (US 4,927,247).

For a description of Kiriki or Ota, see the rejections above. However, neither Kiriki nor Ota discloses an operation distance of 0.3 mm or more.

Tanaka discloses an operation distance of at least 0.4 mm between an objective lens and a substrate of a disc in order to prevent collision (column 4, lines 43-53). It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have used

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an operation distance of 0.3 mm or more between the objective lens and disc of Kiriki or Ota, as suggested by Tanaka, the motivation being to prevent collision, thereby preventing damage to the objective lens and the disc.

13. Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Kiriki or Ota, in view of Kasami et al. (hereafter Kasami) (JP 411120594 A).

For a description of Kiriki or Ota, see the rejections above. However, neither Kiriki nor Ota discloses that the thickness of the transmission layer of the optical disk is 0.3 mm or less.

Kasami (see solution) discloses an optical disk having a transmission layer of thickness 0.3 mm or below. It would have been obvious to one of ordinary skill in the art at the time of invention by the applicant to have used the optical disk having a transmission layer of thickness 0.3 mm or below of Kasami in conjunction with the objective lens of Kiriki or Ota, the motivation being to provide accurate initialization of the optical disc.

### *Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takei (JP 60230610 A) discloses an objective lens having good optical performance and substantial working distance.

Lee et al. (US 5,105,408) discloses an optical head with an objective lens having a short focal distance.

Kojima et al. (US 6,084,847) discloses an objective lens having a focal length of 2.5 mm or less, incidence diameter of 3.0 mm or less, and a working distance of 1.2 mm or less.

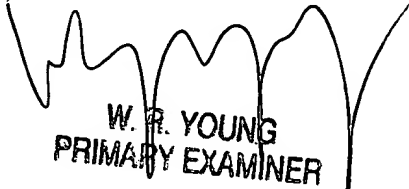
Jutte et al. (US 6,147,956) discloses an optical pickup using a plano-convex lens as an objective lens for focusing two light beams.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is (703) 305-8980. The examiner can normally be reached on Monday thru Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PVA  
04/26/2004

  
W. R. YOUNG  
PRIMARY EXAMINER